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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/313,184	05/18/1999	KANAME MIWA	Q54404	3561

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EXAMINER

TUNG, TA HSUNG

ART UNIT	PAPER NUMBER
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1743

DATE MAILED: 03/12/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

MF-17

Office Action Summary

Application No. 09/313,184	Applicant(s) MIWA BEAL
Examiner T. TUNG	Group Art Unit 1743 Page No. 17

—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

- ☐ Responsive to communication(s) filed on _____
- ☐ This action is FINAL.
- ☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 1 1; 453 O.G. 213.

Disposition of Claims

- ☒ Claim(s) 16-20, 22, 24, 30-35 is/are pending in the application.
- Of the above claim(s) _____ is/are withdrawn from consideration.
- ☐ Claim(s) _____ is/are allowed.
- ☒ Claim(s) 16-20, 22, 24, 30-35 is/are rejected.
- ☐ Claim(s) _____ is/are objected to.
- ☐ Claim(s) _____ are subject to restriction or election requirement.

Application Papers

- ☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- ☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.
- ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119 (a)-(d)

- ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
 - ☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been received.
 - ☐ received in Application No. (Series Code/Serial Number) _____
 - ☐ received in this national stage application from the International Bureau (PCT Rule 1 7.2(a)).

*Certified copies not received: _____

Attachment(s)

- ☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____
- ☐ Interview Summary, PTO-413
- ☐ Notice of Reference(s) Cited, PTO-892
- ☐ Notice of Informal Patent Application, PTO-152
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Other _____

Office Action Summary

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Applicant is reminded that claims designated by him as 31-36 have been re-numbered 30-35 pursuant to Rule 126. This became necessary because the numbering of the claims jumped from 29 to 31 in the March 9, 2001 amendment.

Claims 32-34 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

These claims are not distinct from each other in that the only differences among them occur in the expressions of intended use in the preambles. It is well-settled that such an expression imparts no structural distinction.

Claims 30-35 are rejected under 35 U.S.C. 102(a) as being anticipated by Kato et al 5,672,811.

Kato discloses a sensor comprising two chambers 6 and 8 formed between two electrolyte substrates 4a and 4c, two porous Pt electrodes 28, 24 supported on one side of substrate 4c and means 30 for applying a voltage of 450 mV or 1.5 volts between the electrodes. Electrode 28 is on an inside wall of chamber 8, while electrode 24 is outside of chamber 8. Electrode 28 is shown to have an area at least twofold that of electrode 24 (see figures 2, 15, 21). From the symbol of the voltage apply means 30, electrode 28 would be the negative electrode. However, in any event, polarity of an electrode is not considered to define any structural distinction. Thus, applicant's claim 31 is seen to be met by merely regarding electrode 24 to be the negative

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electrode. See col. 11, line 10 to col. 12, line 61; col. 18, line 46 to col. 19, line 4; particularly col. 12, line 14; col. 15, line 39; col. 18, lines 51 and 67; col. 24, line 18.

Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kato et al '811.

If Kato were construed as not to show a negative electrode 28 having an area size ratio to a positive electrode 24 of 1:2 to 1:5 with both electrodes on one side of an electrolyte, this claim differs in that respect.

Kato (figures 17 and 18) shows a positive electrode 24 with an area more than twofold that of a negative electrode 28. However, these electrodes are not supported on one side of an electrolyte.

Kato's figures 2 and 11-15 show electrodes 28 and 24 on the same side of an electrolyte. It would have been obvious to modify the embodiments of figures 17 and 18 by supporting electrodes 28 and 24 on the same side of an electrolyte in view of figures 2 and 11-15, since there is no unexpected result and the teaching comes from within the four corners of the same patent.

Claim 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kato et al '811 in view of Yagi et al 5,348,630.

If the preamble of this claim were somehow construed to define a structural distinction, this claim differs by calling for a humidifier sensor.

Yagi discloses the use of a zirconia solid electrolyte sensor for measuring humidity. See col. 3, line 26-61. It would have been obvious for Kato to make his sensor into a humidity sensor

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in view of Yagi, since the incorporation of known features from analogous prior art is within the skill of the art.

Claims 16-20, 22-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kato et al '811 in view of Japan 5-87773 or Mase et al 4,657,659.

These claims differ from Kato by calling for at least one electrode to be embedded in the solid electrolyte.

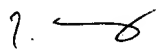
Japan (the entire abstract) or Mase (figures 2, 4, 6, 7, 9, 12) shows electrodes at least partially embedded in solid electrolyte substrates. It would have been obvious for Kato to embed its electrodes as shown by Japan or Mase, since that provides better anchoring and protection for them.

In regard to the various percentages of the resistance values of the sensor element compared to those of a sensor element with equal area electrodes, these percentages are inherent from the electrode areas of Kato.

As for claim 19, polarity of the electrodes is not a structural distinction. Thus, electrode 28 of figure 2 can be considered to be a positive electrode. Or, the embodiments of figures 17 and 18, which show a positive electrode 24 with an area at least twofold that of a negative electrode 28, can be modified to the extent of supporting both electrodes on one side of the electrolyte.

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The examiner can be reached at 703-308-3329. His supervisor Jill Warden can be reached at 703-308-4037. Any general inquiry should be directed to the receptionist at 703-308-0661. A fax number for TC 1700 is 703-872-9310.



Ta Tung

Primary Examiner

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